# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/767,577 | 01/29/2004 | Uwe-Jens Krabbenhoft | HK-794 | 6185 |

24131        7590        06/22/2007
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| EXAMINER |
|---|
| WASHINGTON, JAMARES |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2625 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 06/22/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/767,577 | KRABBENHOFT, UWE-JENS |
| | Examiner | Art Unit | |
| | Jamares Washington | 2625 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after t he mailing date of this com munication, even if timely filed, may re duce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>02 May 2007</u>.

2a)☒ This action is **FINAL.**     2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-5</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

# DETAILED ACTION

## *Response to Amendment*

1.      Applicant's amendment and response received on May 2, 2007 have been entered.

Claims 1-5 are currently pending; claim 1 amended. Applicant's amendments and arguments are

addressed hereinbelow.

## *Response to Arguments*

2.      Applicant's arguments with respect to claims 1-5 have been considered but are moot in

view of the new grounds of rejection.

## *Claim Rejections - 35 USC § 102*

3.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
thereof by the applicant for patent.

4.       Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Kiyotaka

Nakabayashi et al (US 6912306 B1).

         Regarding claim 1, Nakabayashi discloses a method of transforming color values of a

first device-dependent color space into color values of a second device-dependent color space, to

effect a substantially identical visual impression of colors reproduced in the first and second

color spaces ("The object of the invention is to provide an image-processing apparatus and an

image-processing method which process image data so that the images represented by the data

and reproduced by different devices may look almost identical in terms of color" at column 1

line 43), the method which comprises:

         providing a first color profile characterizing the first color space ("Using an input-side

device profile, the converter 21 converts the RGB value to an XYZ value" at column 3 line 47)

and providing a second color profile characterizing the second color space ("The output-side

converter 25 converts the XYZ value to a CMY value (or a CMYK value) that the printer 3 will

use to print the image, by using the output-side device profile" at column 4 line 54);

         wherein the first and second color profiles specify an association between the color

values of the first and second device-dependent color spaces and the color values of a device-

independent color space ("The input-side device profile is a file that contains conversion formula

or a conversion table for converting the RGB value received from the image display 2, to a XYZ

value based on the human visual sense" at column 3 line 50 "The output-side device profile is a

file that contains conversion formula or a conversion table for converting the XYZ value based

on the human visual sense to a CMY value, which the printer 3 will use to print the image" at

column 4 line 57);

wherein a white point of the first device-dependent color space, a white point of the

second device-dependent color space, and a white point of the device-independent color space

are described by device-independent white point values ("To convert the XYZ value received

from the input-side converter 21, the input-side observation environment changing circuit 22

receives, from the first input-side sensor 12, the detection signal representing the reflectance and

the like of the screen of the image display 2. The circuit 22 also receives, from the second input-

side sensor 13, the detection signal representing the ambient light L.sub.2 that exists at the time

of observing the image displayed by the image display 2. From these detection signals the circuit

22 obtains the parameters concerning the environment in which the image displayed by the

image display 2 is observed. Using the parameters, the circuit 22 performs a conversion process

based on the chromatic adaptation model and a conversion process for making it possible to use

the XYZ value in the device optimal color space" at column 4 line 4);

determining relative color values of the device-independent color space from the color

values of the first device-dependent color space by way of the association specified in the first

color profile (Fig. 4 RGB to XYZ – process based on input-side device profile);

converting the relative color values into absolute color values ( in a ratio corresponding to

a ratio of the values of the white point of the first device-dependent color space and the white

point of the device-independent color space (Fig. 4 RGB to XYZ – process based on input-side

device profile. "...in the conversion process performed by the input-side observation

environment changing circuit 22, the parameters concerning the environment in which the image

is observed are obtained from the reflectance and the like of the screen of the image display 2..."

at column 6 line 24. Equations 1-1 and 1-2 described in column 6 line 60 thru column 7 line 19.)

determining chromatically adapted color values from the absolute color values by way of

a chromatic adaptation transformation (Fig. 4 XYZ to $L_sM_sS_s$ to $X_{op}Y_{op}Z_{op}$), the chromatic

adaptation transformation includes converting the absolute color values into receptor signals L,

M, S of color receptors by use of matrix multiplication ("To convert the tri stimulus value (XYZ

value) to a cone signal (LMS value), the most appropriate matrix formula is selected from among

the above-mentioned formulae in accordance with the characteristics and the like of the image"

at column 8 line 12);

converting the chromatically adapted color values into relative chromatically adapted

color values in a ratio corresponding to a ratio of the values of the white point of the device-

independent color space and the white point of the second device-dependent color-space ("...the

circuit 24 subjects the $L_sM_sS_s$ value to a conversion process based on the chromatic adaptation

model, thus converting the $L_sM_sS_s$ value to an XYZ value" at column 5 line 30);

and determining color values of the second device-dependent color space from the

relative chromatically adapted color values by way of the association specified in the second

color profile ("...the output-side converter 25 converts the XYZ value to a CMY value" at

column 5 line 33 and Fig. 4 XYZ to CMY Conversion based on output-side profile).


Regarding claim 2, discloses the method as rejected in claim 1, which comprises carrying

out the chromatic adaptation transformation by way of a Bradford matrix ("...the tristimulus

value (i.e., XYZ value) is converted to a cone signal (LMS value). This conversion process uses

a matrix. The matrix formulae that can be applied to the conversion process are as

follows...Bradford Conversion Eq. (1-6)" at column 7 line 47).

Regarding claim 3, discloses the method as rejected in claim 1, which comprises carrying

out the chromatic adaptation transformation in accordance with a Von Kries matrix ("To cope

with the changes in the sensitivity of the cones, the chromatic adaptation is corrected on the basis

of the Von Kries adaptation model" at column 8 line 32).

*Claim Rejections - 35 USC § 103*

5.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.      Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyotaka

Nakabayashi et al (US 6912306 B1) in combination with Kim Jin-Seo et al ("Development of

Color Management System Prototype" IEEE, 1998.

Regarding claim 4, Nakabayashi discloses the method as rejected in claim 1 comprising

the use of color profiles.

Nakabayashi fails to teach color profiles formatted in accordance with the ICC

specification.

However, Jin-Seo et al teaches, in the same field of endeavor of matching color perception in different environments ("...color management system that can help computers to correct color information between different color image devices" at page 1column 1 under "Preface" line 20), teaches color profiles formatted in accordance with the ICC specification ("ICC (International Color Consortium) is currently working for establishing a worldwide profile standard. And our lab is one of the ICC members" at page 2 column 2 under "Standardization of Device Profiles" line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ICC color profiles as taught by Jin-Seo et al as the profiles used by Nakabayashi to obtain "consistencies between devices. It is very important to use the standard device profile [to obtain these consistencies]." (Jin-Seo, page 2 column 2 line 2).


Regarding claim 5, the Nakabayashi-Jin-Seo combination above discloses the method as rejected in claim 4.

The combination fails to teach leaving unchanged the associations contained in the color profiles between the color values of the device-dependent color space and the color values of the device-independent color space.

However, Jin-Seo et al further teaches the above limitation ("Furthermore, we develop new tags for scanner and monitor which are not in the current ICC profiles. When users select one of the profiles, a dialog box shows the information of the profile..." at page 3 column 1 under "Profile Editor" line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the profile editing feature of saving relative profile matches as taught by Jin-Seo in the method of using ICC color profiles as disclosed by the Nakabayashi-Jin-Seo combination to enable users to "change the parameters so that the output image matches the original one" (at page 3 column 2 line 3, Jin-Seo).

*Conclusion*

1.      **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jamares Washington whose telephone number is (571) 270-1585.

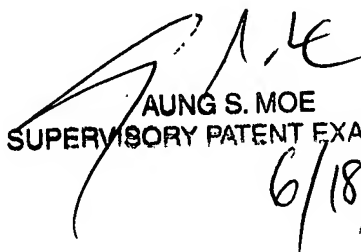The examiner can normally be reached on Monday thru Friday: 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jamares Washington
Junior Examiner
Art Unit 2625

June 12, 2007

JW

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SUPERVISORY PATENT EXAMINER
6/18/07